

REMARKS

The Official Action mailed March 20, 2006, has been received and its contents carefully noted. This response is filed within three months of the mailing date of the Official Action and therefore is believed to be timely without extension of time. Accordingly, the Applicant respectfully submits that this response is being timely filed.

The Applicant notes with appreciation the consideration of the Information Disclosure Statements filed on September 27, 2000; October 12, 2000; February 14, 2001; March 11, 2002; October 21, 2002; October 24, 2003; and November 8, 2004.

Claims 2-11, 13 and 16-34 were pending in the present application prior to the above amendment. Dependent claims 5-7 and 17-19 have been canceled without prejudice or disclaimer, independent claims 13 and 30 and dependent claim 16 have been amended to better recite the features of the present invention, and dependent claims 8-11, 20, 21, 33 and 34 have been amended to correct minor typographical and grammatical informalities and for consistency. The Applicant notes with appreciation the allowance of claims 3, 8-11/3 and 30-34 and the indication of the allowability of claims 4 and 16 (page 5, Paper No. 031306). Accordingly, claims 2-4, 8-11, 13, 16 and 20-34 are now pending in the present application, of which claims 2, 3, 13 and 30 are independent. For the reasons set forth in detail below, all claims are believed to be in condition for allowance. Favorable reconsideration is requested.

Paragraph 5 of the Official Action rejects claims 2, 5-7, 8-11/2, 13 and 17-29 as obvious based on the combination of U.S. Patent No. 6,320,574 to Eglit and U.S. Patent No. 6,657,640 to Shigeta. With respect to independent claim 2, the Applicant respectfully traverses the rejection because the Official Action has not made a *prima facie* case of obviousness. With respect to independent claim 13, the Applicant respectfully submits that a *prima facie* case of obviousness cannot be maintained against the independent claims of the present application, as amended. With respect to independent claim 30, the claim is allowed, the Applicant has amended the claim for clarity, and the Applicant believes that the claim is still on condition for allowance.

As stated in MPEP §§ 2142-2143.01, to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art. "The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art." In re Kotzab, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000). See also In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); In re Jones, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

The prior art, either alone or in combination, does not teach or suggest all the features of the independent claims.

Independent claim 2 recites frequency modulating a reference clock signal and obtaining a modulated clock signal; performing sampling and A/D conversion on an analog image signal on the basis of the modulated clock signal and obtaining a digital image signal; after performing digital signal processing on the digital image signal, performing D/A conversion on the digital image signal on the basis of the reference clock signal and obtaining an improved analog image signal. Similarly, Independent claim 13 has been amended to recite that a digital image signal is converted to an analog image signal by D/A conversion on the basis of a first modulated clock signal. Eglit and Shigeta do not teach or suggest the above-referenced features of claims 2 or 13.

The Official Action asserts that Eglit discloses "a method of driving a display device 100, comprising the steps of: frequency modulating a reference clock signal and obtaining a modulating clock signal; performing sampling and A/D conversion on an analog image signal on the base of the modulated clock signal for obtaining a digital image signal" (pages 2-3, Paper No. 031306). The Official Action specifically asserts that "Eglit teaches that a clock generator 850 is used for receiving a reference clock signal 802, which is a HSYNC signal, which is then frequency modulated for providing a modulated signal (Eglit calls 'a sampling clock signal') on line 851 to ADC 810 for performing sampling on an analog image signal provided to the ADC 810 on line 801 and obtaining a digital image signal on line 812 for processing for obtaining an image on a display screen 100" (page 3, *Id.*; Figure 8 of Eglit reproduced below).

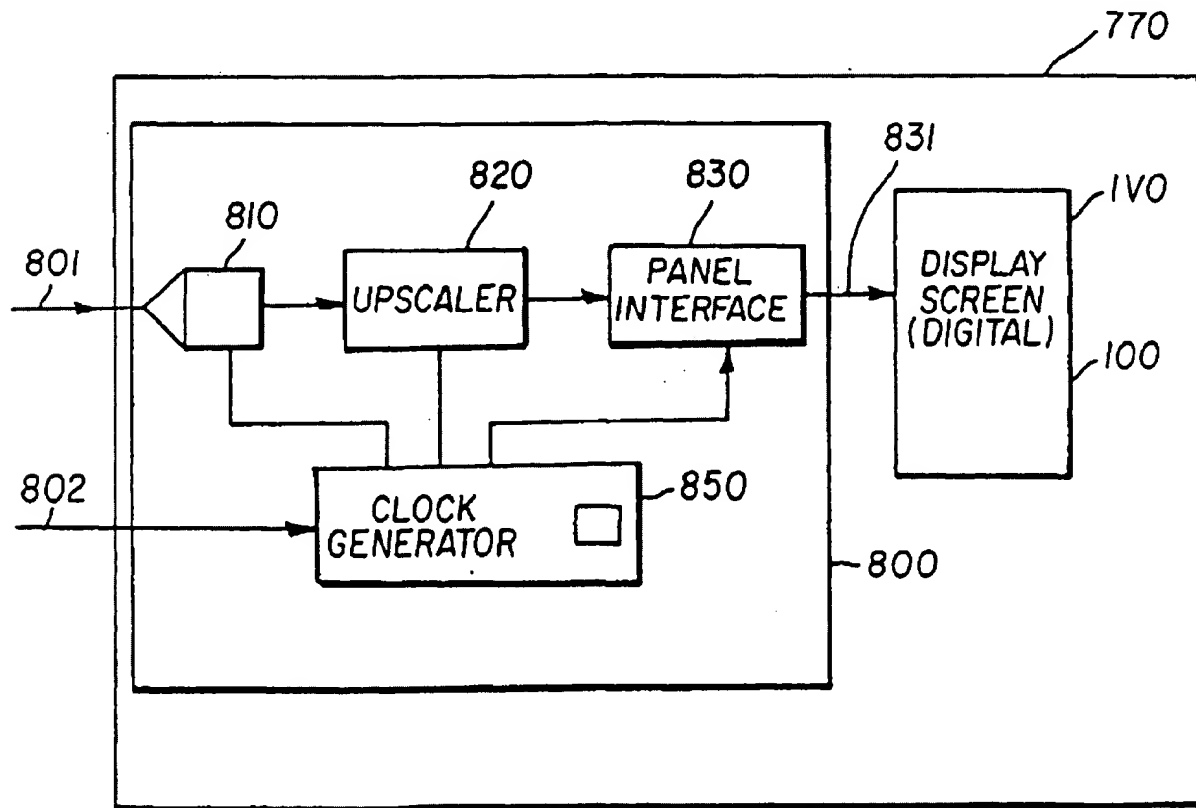
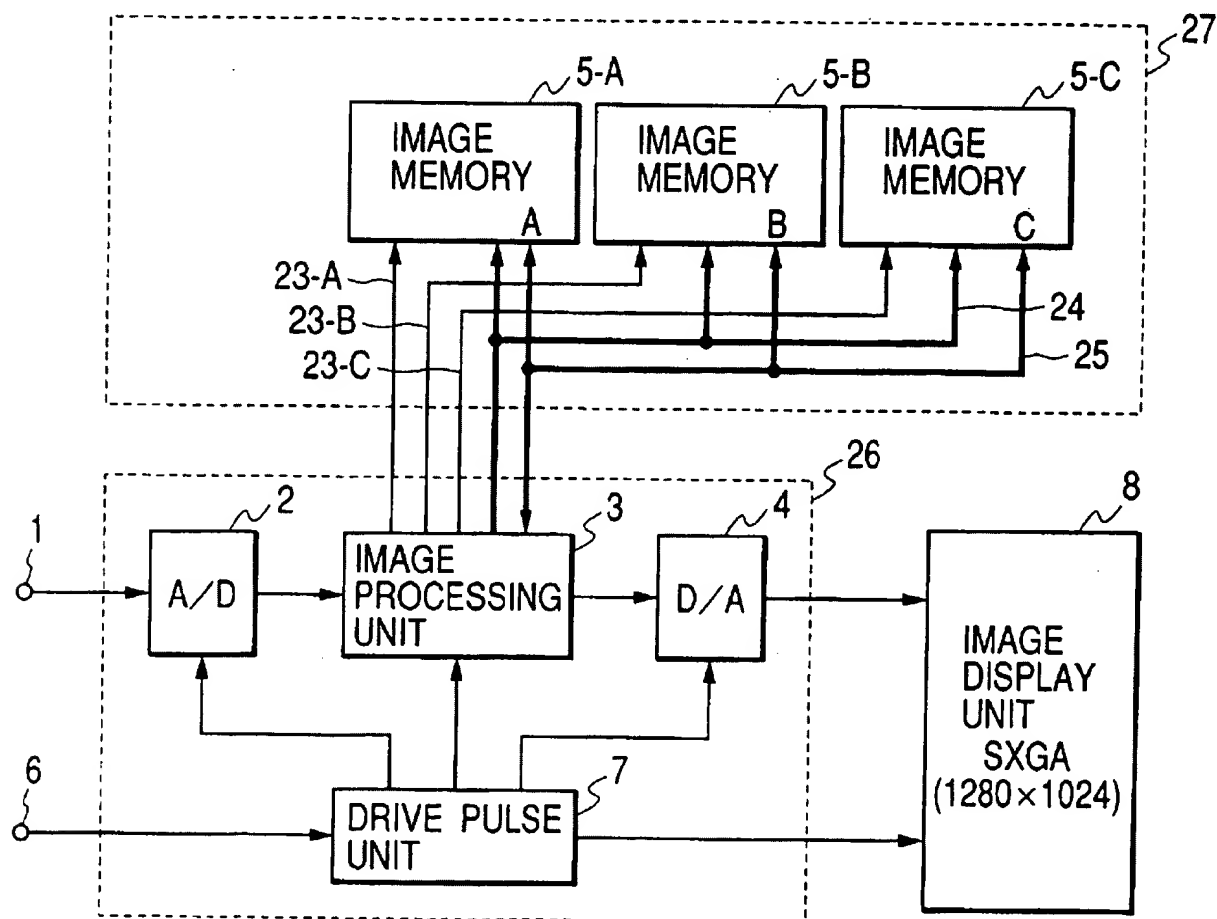


FIG. 8

The Official Action concedes that “Eglit does not teach that the step of performing D/A conversion on the digital image signal on the basis of the reference clock signal and obtaining an improved analog image signal for supplying to a corresponding pixel and obtaining an image” (page 3, *Id.*). The Official Action relies on Shigeta to allegedly teach “that a D/A converter 4 is used for performing the method step of performing D/A conversion on a digital image signal provided by an image signal processing unit 3 (Figure 1 of Shigeta reproduced below).

FIG. 1



However, Eglit and Shigeta, either alone or in combination, do not teach or suggest frequency modulating a reference clock signal and obtaining a modulated clock signal; performing sampling and A/D conversion on an analog image signal on the basis of the modulated clock signal and obtaining a digital image signal; after performing digital signal processing on the digital image signal, performing D/A conversion on the digital image signal on the basis of the reference clock signal and obtaining an improved analog image signal. Specifically, Eglit and Shigeta do not teach or suggest D/A conversion on a digital signal on the basis of a reference clock signal, which is used to obtain a modulated clock signal. Even if one of ordinary skill in the art were motivated to insert D/A converter 4 of Shigeta into Eglit, it is not clear why one would have been motivated to insert D/A converter 4 after analog-to-digital converter (ADC) 810 and before obtaining an image on a display screen 100 and in such a manner that the D/A conversion is performed on the basis of Eglit's reference clock signal 802, and it is not clear that Shigeta's D/A converter 4 could function properly in Eglit's digital display unit 770. That is, it is not clear why one would be motivated to convert a digital signal back into an analog signal in the digital display unit 770 of Eglit. Also, it is not clear why one who was concerned with "driving display units having different resolutions" would not have simply practiced Shigeta alone.

Dependent claims 5-7 and 17-19 have been deleted without prejudice or disclaimer; therefore, the rejection of these claims is now moot.

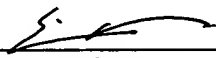
Since Eglit and Shigeta do not teach or suggest all the claim limitations, a *prima facie* case of obviousness cannot be maintained. Accordingly, reconsideration and withdrawal of the rejections under 35 U.S.C. § 103(a) are in order and respectfully requested.

Although independent claim 30 is allowed (paragraph 11, page 5, Paper No. 031306), the Applicant has taken this opportunity to amend claim 30 to remove features which are not believed to be critical to the patentability of the claims and to better recite the features of the present invention. Specifically, claim 30 has been amended to

remove the features of supplying an improved analog image signal to a corresponding pixel and obtaining an image, where a modulated clock signal is obtained by shifting a frequency of a reference clock signal in the form of a sine wave. Claim 30 has been amended to recite supplying an improved analog image signal to a source signal line, where at least two gate signal lines are selected at a same time when an improved analog image signal is inputted to a source signal line. Independent claim 30, as amended, is still believed to be in condition for allowance.

Should the Examiner believe that anything further would be desirable to place this application in better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,



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